AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (original): A heat-decaying material comprising a polyoxyalkylene resin as the principal ingredient thereof, which has an oxygen atom content of from 15 to 55 % by mass and of which at least 95 % by weight decays within 10 minutes when heated at a predetermined temperature falling between 150 and 350°C.

2. (original): The heat-decaying material as claimed in claim 1, wherein the polyoxyalkylene resin is polyoxypropylene, polyoxyethylene, polyoxytetramethylene, or a mixed resin of polyoxypropylene, polyoxyethylene and/or polyoxytetramethylene.

3. (original): The heat-decaying material as claimed in claim 2, wherein the polyoxypropylene content of the mixed resin is at least 50 % by mass.

4. (currently amended): The heat-decaying material as claimed in ~~any of~~ claim 1 ~~to claim 3~~, wherein the polyoxyalkylene resin has a number-average molecular weight of from 500 to 5,000,000.

5. (currently amended): The heat-decaying material as claimed in ~~any of~~ claim 1 ~~to claim 4~~, which contains a decomposition promoter.

6. (original): The heat-decaying material as claimed in claim 5, wherein the decomposition promoter is a peroxide.

7. (original): The heat-decaying material as claimed in claim 5, wherein the decomposition promoter is an azo compound.

8. (original): The heat-decaying material as claimed in claim 5, wherein the decomposition promoter is tin oxide.

9. (currently amended): The heat-decaying material as claimed in ~~any of~~ claim 1 ~~to claim 4~~, which contains a decomposition retardant.

10. (original): The heat-decaying material as claimed in claim 9, wherein the decomposition retardant is any of a mercapto compound, an amine compound, an organic tin, or an organic boron.

11. (currently amended): The heat-decaying material as claimed in ~~any of~~ claim 1 ~~to claim 10~~, which decays when heated in an oxygen-containing atmosphere at a predetermined temperature falling between 150 and 300°C.

12. (currently amended): The heat-decaying material as claimed in ~~any of~~ claim 1 ~~to claim 10~~, which decays when heated in an anaerobic atmosphere at a predetermined temperature falling between 150 and 350°C.

13. (currently amended): The heat-decaying material as claimed in ~~any of~~ claim 1 ~~to claim 12~~, which decays when heated under reduced pressure within 5 minutes at a predetermined temperature falling between 150 and 350°C.

14. (currently amended): A heat-decaying material of a heat-decaying sheet which is composed of the heat-decaying material of ~~any of~~ claim 1 ~~to claim 13~~ and which keeps its sheet form at a temperature of 100°C or lower.

15. (original): The heat-decaying material as claimed in claim 14, wherein the polyoxyalkylene resin is not crosslinked and has a number-average molecular weight of from 5000 to 5,000,000.

16. (original): The heat-decaying material as claimed in claim 14, wherein the heat-decaying sheet contains a crosslinked polyoxyalkylene resin.

17. (original): The heat-decaying material as claimed in claim 16, wherein the crosslinked polyoxyalkylene resin is formed by crosslinking a crosslinkable functional group-having polymer that contains segments of a crosslinkable functional group-having polyalkylene glycol or polyoxyalkylene, with a crosslinking agent.

18. (original): The heat-decaying material as claimed in claim 14, wherein the heat-decaying sheet contains an uncrosslinked polymer that contains segments of an uncrosslinked polyalkylene glycol or polyoxyalkylene.

19. (currently amended): The heat-decaying material as claimed in ~~any of~~ claim 14 ~~to claim 18~~, wherein the heat-decaying sheet is reinforced with a substrate.

20. (currently amended): A heat-decaying material comprising the heat-decaying material of ~~any of~~ claim 1 ~~to claim 13~~, which contains a crosslinkable functional group-having polymer that contains segments of a crosslinkable functional group-having polyoxyalkylene glycol or polyoxyalkylene, and a crosslinking agent, and which has a viscosity at 20°C of from 1 to 5,000,000 mPa·s.

21. (original): The heat-decaying material as claimed in claim 20, which contains at most 30 % by mass of a polymerizable unsaturated group-having compound.

22. (original): The heat-decaying material as claimed in claim 20, which has a viscosity at 20°C of from 1 to 100 mPa·s.

23. (original): The heat-decaying material as claimed in claim 20, which has a viscosity at 20°C of from 500 to 100,000 mPa·s.

24. (original): The heat-decaying material as claimed in claim 20, which has a viscosity at 20°C of from 20 to 1000 mPa·s.

25. (original): The heat-decaying material as claimed in claim 17 ~~or claim 20~~, wherein the crosslinkable functional group is at least one selected from a hydrolyzing silyl group, an isocyanate group, an epoxy group, an oxetanyl group, an acid anhydride group, a carboxyl group, a hydroxyl group, and a polymerizable unsaturated hydrocarbon group.

26. (currently amended): The heat-decaying material as claimed in ~~any of~~ claim 14 ~~to claim 19~~, which decays in a temperature atmosphere falling between 150 and 220°C.

27. (currently amended): The heat-decaying material as claimed in ~~any of~~ claim 14 ~~to claim 19~~, which decays in a temperature atmosphere falling between 220 and 280°C.

28. (currently amended): The heat-decaying material as claimed in ~~any of~~ claim 14 ~~to claim 19~~, which decays in a temperature atmosphere falling between 280 and 350°C.

29. (currently amended): The heat-decaying material as claimed in ~~any of~~ claim 20 ~~to claim 24~~, wherein the cured product of the material decays in a temperature atmosphere falling between 150 and 220°C.

30. (currently amended): The heat-decaying material as claimed in ~~any of~~ claim 20 ~~to claim 24~~, wherein the cured product of the material decays in a temperature atmosphere falling between 220 and 280°C.

31. (currently amended): The heat-decaying material as claimed in ~~any of~~ claim 20 ~~to claim 24~~, wherein the cured product of the material decays in a temperature atmosphere falling between 280 and 350°C.

32. (original): A method for producing a porous material, which comprises:

a step of preparing a precursor that contains a skeleton-forming crosslinkable material (a) and the heat-decaying material (b) of claim 1 that comprises a polyoxyalkylene resin as the principal ingredient thereof and decomposes and evaporates when heated;

a step of heating the precursor at a temperature not lower than the temperature at which the heat-decaying material (b) decays under heat;

a step of crosslinking the crosslinkable material before or during the heating to form a skeleton phase,

and in which the heat-decaying material (b) decays in the crosslinked material to give a porous material having a large number of pores surrounded by the skeleton phase.

33. (original): A transfer sheet constructed by adhering a transfer object on a heat-decaying adhesive resin layer that comprises the heat-decaying material of claim 1.

34. (original): A patterning method, which comprises a step of forming a heat-decaying resin film of the heat-decaying material of claim 1 on the surface of a substrate to be processed,

and a step of selectively applying thermal energy to the heat-decaying resin film so as to decay the heat-decaying resin film in the thermal energy-irradiated area to thereby form a pattern of the heat-decaying resin film.

35. (original): A patterning method, which comprises:

a step of forming a heat-decaying resin film of the heat-decaying material of claim 1 on the surface of a substrate to be processed;

a step of transferring a pattern formed in a photomask to the heat-decaying resin material through exposure of the material to light; and

a step of heating the heat-decaying resin film after the exposure transfer step for selectively decaying the heat-decaying resin film in the region not exposed to light in the previous exposure transfer step to thereby form a pattern of the heat-decaying resin film.

36. (new): The heat-decaying material as claimed in claim 20, wherein the crosslinkable functional group is at least one selected from a hydrolyzing silyl group, an isocyanate group, an epoxy group, an oxetanyl group, an acid anhydride group, a carboxyl group, a hydroxyl group, and a polymerizable unsaturated hydrocarbon group.